

### **REMARKS**

This responds to the Office Action dated November 3, 2005. Claims 1, 4, 8, 24, and 51 are amended. No claims are cancelled or added. Claims 1-32 and 51-56 are pending in this patent application.

#### **§112 Rejection of the Claims**

1. Claims 1-23 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness for lack of antecedent basis. Accordingly, claims 1, 4, and 8 were amended to provide proper antecedent basis. Applicant respectfully requests reconsideration and allowance of claims 1-23.

#### **§103 Rejection of the Claims**

2. Claims 1-3, 6, 7, 10-14, 16-22, 24, 25, 27-30, 32, 51, 52 and 54-56 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shahandeh (U.S. Patent No. 6,532,389) in view of Foster et al. (U.S. Publication No. 2003/0036776, "Foster"). Applicant respectfully traverses.

*Regarding claims 1-3, 6-7, 10-14, 16-22, 52, 54, and 55:*

Applicant cannot find in Shahandeh and/or Foster any disclosure of, among other things, a controller circuit, ... operable to enter a memory scrubbing mode when the controller circuit determines the implantable device is in a high-energy radiation environment, wherein the memory scrubbing mode has an increased rate of error checking to detect and correct single bit errors in the memory,

as presently recited or incorporated in these claims. Foster apparently does not describe error checking at all. While the cited portions of Shahandeh apparently disclose errors resulting from ambient alpha particles or atmospheric neutron flux, Applicant cannot find anything in Shahandeh and/or Foster that discloses, teaches, or even suggests changing a rate of error checking when the controller determines that the implantable device is in a high-energy radiation environment. The Office Action states:

Please note that the examiner is interpreting "increasing the rate of detecting and correcting single bit errors" as being an inherent property of Shahandeh's invention. Since this invention "scrubs" the memory for each write function, an increase in high energy radiation will inherently increase the errors that will be

detected and corrected because there will be more errors and all errors are detected and corrected.<sup>1</sup>

However, because Shahandeh merely scrubs the memory for each write function, it fails to alter or increase the rate of error “checking” when a controller circuit determines that a high radiation environment is present, as presently recited or incorporated in these claims. By contrast, the present claims describe adapting the rate of error “checking” in response to a determination that a high radiation environment is present—no such adaptivity is disclosed, taught, or even suggested by Shahandeh.

Combining Shahandeh with Foster fails to cure this deficiency. The cited portion of Foster apparently describes a device that “detects a voltage induced by electromagnetic interference (EMI),”<sup>2</sup> such as may be present during a magnetic resonance imaging (MRI) procedure.<sup>3</sup> One of ordinary skill in the art would understand that the very motivation for a radiologist to use MRI instead of radiographic imaging technique (such as computed tomography (“CT”)) is to avoid placing the patient in a high radiation environment. Thus, Applicant disagrees with any assertion that EMI detection in an MRI environment somehow equates to detecting a high radiation environment that could induce memory errors. In fact, Applicant can find nothing in the cited portions of Foster that disclose, teach, or even suggest detecting a rate of memory errors—only “internal errors” is mentioned. There is no indication that such internal errors constitute memory errors. Moreover, any such “internal errors” apparently arise from MRI-induced EMI, instead of being a radiation-induced memory error.

Furthermore, Applicant cannot find in Shahandeh or Foster any disclosure of wherein the controller circuit determines a high-energy radiation environment by detecting a rate of memory errors that exceeds a predetermined threshold,

as recited in claim 2. Neither Shahandeh or Foster teaches or suggests detecting a rate of memory errors.

In sum, because the cited portions of Shahandeh and/or Foster apparently fail to disclose all elements recited or incorporated in claims 1-3, 6, 7, 10-14, 16-22, 24, 25, 27-30, 32, 51, 52

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<sup>1</sup> Office Action ¶ 9.

<sup>2</sup> Foster ¶0032.

<sup>3</sup> Id. ¶0008.

and 54-56, Applicant respectfully submits that no *prima facie* case of obviousness presently exists with respect to these claims.

Moreover, Applicant can find no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings.<sup>4</sup> The Office Action asserts:

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Shahandeh's invention by switching modes when a high radiation environment is detected to protect the most sensitive portions of the device, determining a rate of internal errors to accurately activate the mode change when exposed to high-energy radiation, utilizing a sensor to determine that the device is in a high radiation environment, deactivating the mode when the device is no longer in the high-energy radiation environment to allow the utilization of the more desirable mode when not in a high-energy radiation environment based on a threshold rate and time duration, enabling and disabling the mode with an external RF transmitter associated with a radiation source to allow an MRI device to directly activate the mode change, and a radiation detector circuit to provide a means to switch modes in cases where radiation is higher than background radiation.<sup>5</sup>

This asserted motivation—which appears to be impermissibly drawn from the hindsight of the Applicant's own disclosure, rather than from any objective reading of the cited references or generally available knowledge—still fails to establish a *prima facie* case of obviousness. As discussed above, Shahandeh fails to adaptively increase an error-checking rate, and Foster fails to even address a high radiation environment of the type that could induce memory errors—it deals with the different problem of detecting EMI disruption due to MRI, an imaging technique that is typically used, at least in part to avoid the harmful health consequences of such radiation to a patient. Thus, neither Shahandeh or Foster suggest the desirability of the present claims. Additionally, the Office Action's stated motivation is highly suggestive that the Office Action is impermissibly using Applicant's claims as a template to formulate the motivation to combine the references. Applicant respectfully submits that a proper objective motivation to combine the references has not been shown.

In sum, because all elements are not present in the combination of Shahandeh and/or Foster, and because the Office Action has failed to properly establish the required objective

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<sup>4</sup> M.P.E.P. § 2143.

<sup>5</sup> Office Action ¶ 12.

motivation to combine Shahandeh and Foster, Applicant respectfully submits that no *prima facie* case of obviousness presently exists with respect to claims 1-3, 6, 7, 10-14, 16-22, 24, 25, 27-30, 32, 51, 52, and 54-56. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

*Regarding claims 24, 25, 27-30, 32, and 56:*

Applicant cannot find in the proposed combination of Shahandeh and Foster any disclosure of, among other things,

increasing a rate of error checking to detect and correct memory errors in the device upon the enabling of the scrubbing mode,

as presently recited or incorporated in the claims. Foster does not teach or suggest error checking, and Shahandeh does not teach or suggest changing a rate of error checking.

*Regarding claim 51:*

Applicant cannot find in the proposed combination of Shahandeh and Foster any disclosure of, among other things,

means for increasing a rate of error checking to detect and correct memory errors in the device upon the enabling of the scrubbing mode,

as presently recited in the claim 51. Foster does not teach or suggest error checking, and Shahandeh does not teach or suggest changing a rate of error checking.

In sum, Applicant respectfully requests reconsideration and allowance of claims 1-3, 6, 7, 10-14, 16-22, 24, 25, 27-30, 32, 51, 52 and 54-56.

3. Claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Shahandeh (U.S. Patent No. 6,532,389) in view of Foster et al. (U.S. Publication No. 2003/0036776) as applied to claim 13 above, and further in view of Linberg (U.S. Publication No. 2002/0032470).

Claim 15 ultimately depends on base claim 1. As discussed above, Applicant believes base claim 1 to be allowable at least for the reason that the proposed combination of Shahandeh and Foster does not describe all of the elements of the claim. The addition of Linberg fails to teach or suggest the missing elements. For example, Applicant is unable to find in Shahandeh, Foster, or Linberg a teaching or suggestion of,

a controller circuit, ... operable to enter a memory scrubbing mode when the controller circuit determines the implantable device is in a high-energy radiation

environment, wherein the memory scrubbing mode has an increased rate of error checking to detect and correct single bit errors in the memory,

as presently recited in claim 1 and incorporated into claim 15. Therefore, Applicant respectfully requests reconsideration and allowance of claim 15.

4. Claim 23 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Shahandeh (U.S. Patent No. 6,532,389) in view of Foster et al. (U.S. Publication No. 2003/0036776) as applied to claim 19 above, and further in view of Ullestad et al. (U.S. Patent No. 6,635,048, "Ullestad").

Claim 23 ultimately depends on base claim 1. As discussed above, Applicant believes base claim 1 to be allowable at least for the reason that the proposed combination of Shahandeh and Foster does not describe all of the elements of the claim. The addition of Ullestad fails to teach or suggest the missing elements. For example, Applicant is unable to find in Shahandeh, Foster, or Ullestad a teaching or suggestion of,

a controller circuit, ... operable to enter a memory scrubbing mode when the controller circuit determines the implantable device is in a high-energy radiation environment, wherein the memory scrubbing mode has an increased rate of error checking to detect and correct single bit errors in the memory,

as presently recited in claim 1 and incorporated into claim 23. Therefore, Applicant respectfully requests reconsideration and allowance of claim 23.

#### Allowable Subject Matter

Claims 26, 31 and 53 were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant acknowledges the allowable subject matter, but believes the base claims on which claims 26, 31 and 53 depend, namely claim 1 and claim 24, are allowable for the reasons discussed previously.

Claims 4, 5, 8 and 9 were indicated to be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. § 112 set forth in the Office Action. Claims 4 and 8 were amended to better recite the claimed subject matter. No new matter is entered. The amendment make express of what was implicit in the claim as originally worded, and is therefore believed to be

non-narrowing. Applicant acknowledges the allowable subject matter, but believes that base claim 1 on which claims 4, 5, 8 and 9 depend is allowable for the reasons discussed previously.

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6951 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


Respectfully submitted,

KENNETH P. HOYME ET AL.

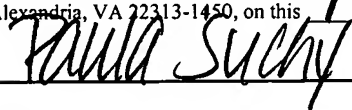
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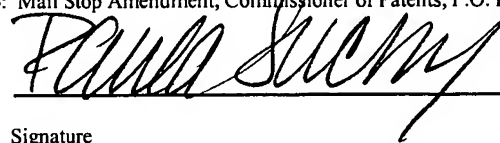
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